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DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125
STOLZ, J. F. PWR Project Directorate 6

SUBJECT: Forwards info supplementing 860424 submittal re Unit 1 vessel shell-to-flange weld indications, per NRC request. Info shows primary stress limits of Section III, Article NB-3000 satisfied.

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April 29, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. John F. Stolz, Project Director
PWR Project Directorate No. 6

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Sir:

By letter dated April 24, 1986, Duke Power Company (Duke) submitted information that was requested by the NRC during an April 21, 1986 meeting concerning the Oconee Unit 1 Reactor Vessel Shell-to-Flange weld indications. During the review of this information the NRC requested information that would show that the primary stress limits of Section III, Article NB-3000 are satisfied, assuming a local area reduction of the pressure retaining membrane that is equal to the area of the indication.

To this end, attached is information that shows that the Primary Stress Limits of Section III, Article NB-3000 have been satisfied.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

PFG:slb

Attachment

xc: Mrs. Helen Pastis
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. J. C. Bryant
NRC Resident Inspector
Catawba Nuclear Station

A001

As part of the requirements of the ASME, B & PV Code, Section XI, Subarticle IWB-3610, it is necessary to show that the primary stress limits of Section III, Article NB-3000 are satisfied assuming a local area reduction of the pressure retaining membrane that is equal to the area of the detected indication(s).

The Code stress report was utilized to:

1) Show that the flaws were beyond the required area of reinforcement for the inlet and outlet nozzle hence confirming additional thickness exist beyond that required and,

2) Extract the previously determined primary stresses to assess the effects of the flaws on the cross section

Calculated below are the Code adjusted stresses:

$$P_L = 12.7 \left( \frac{12}{12 - 2.99} \right) = 16.9 \text{ ksi} < 40 \text{ ksi Allowable}$$

$$P_L + P_b = 26.9 \left( \frac{12}{12 - 2.99} \right) = 35.8 \text{ ksi} < 40 \text{ ksi Allowable}$$